
SIEUR DE MONTS PUBLICATIONS

V

An Acadian Plant Sanctuary

Merritt W. Fernald



ISSUED BY
THE WILD GARDENS OF ACADIA
BAR HARBOR, MAINE

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“There are few things in the course of journeys which one recalls with more pleasure than parks and gardens which combine opportunities for studying the flora of a country with the enjoyment of natural beauty.”

JAMES BRYCE.

M. L. FERNALD

Professor of Botany at Harvard University

Curator of the Gray Herbarium

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One of the commonest sights in the wilder districts of our once densely timbered eastern States is vast stretches of burned and wasted land, desolate and unproductive.

Now, nearly all the native plants which originally inhabited these desolated areas have a peculiarly modified root-structure which renders it impossible for them to grow in any soil other than the moist and spongelike forest humus, to life in which their whole development has been shaped for ages past.

The immediate effect, then, of the removal of the forest and burning over of its leafy floor is the complete annihilation of countless lesser plants, wild flowers and ferns in hundreds of beautiful and interesting species which give the primeval forest of the region its great natural charm.

The evil does not stop, however, with the destruction of the native woods and wild flowers and the gradually ac-

accumulated wealth of woodland soil. Nature's anciently established equilibrium is disturbed at its foundation, and the native insects, associated from the beginning with the native flowering plants and rarely hurtful to the farmer, perish largely with the vegetation and the soil that they have lived and bred upon, leaving the field clear for the invasion of destructive foreign species.

The birds, in turn, who feed upon the native insects and control the balance of insect increase, no longer find their former food supply or shelter, and either vanish from the wasted region or continue in diminished numbers.

Much of the land thus wrecked by axe and fire in the well-watered eastern portion of our country must ultimately be reclothed with forest as its best economic use, and none can be so well adapted to it as that which nature clothed it with originally, rich alike in beauty and in valuable species. But it will be long before such land again develops the humus covering the native forest flora and its associated life require, and unless prompt measures are taken to conserve them till it does the task of resettling future forests with the rich, indigenous life that is the region's own will have become impossible.

It has, therefore, long seemed to the writer that the only way in which to conserve for the enjoyment and study of future generations any portions of our country which by good fortune still remain in their natural condition is the reservation of appropriate tracts, such as may properly be set aside, with the explicit stipulation that they be left essentially in their natural state.

This brings me to the crucial point: Where is the best spot, if only a single spot can be thus preserved, for the perfection of this ideal? A detailed knowledge of the geography, the flora, and to some extent the soil conditions of eastern North America, acquired through twenty-five years of active exploration in New England, the Maritime Provinces, Quebec, Newfoundland, and Labra-



Primeval hemlocks growing on lands belonging to The Wild Gardens of Acadia which form one of the approaches
from Bar Harbor to the national park

dor, naturally brings several regions to mind; but as a single area within the possible reach of this hope, the Island of Mount Desert, with its adjacent islets and headlands, stands out as offering the greatest natural diversity.

This comes obviously from the fact that Mount Desert is the highest land on the Atlantic coast of North America south of the Gulf of St. Lawrence, its boldly sculptured hills, which rise directly from the water's edge, attaining altitudes of almost montane character.

The exposed headlands and bogs of the Mount Desert region support between two and three hundred species of plants which are typical of the arctic, subarctic, and Hudsonian regions of America, and which on the eastern coast of New England or the alpine summits of the White Mountains reach their actual or approximate southern limits—such plants, for instance, as the Black Crowberry, *Empetrum nigrum*; the Baked-apple Berry, *Rubus Chamaemorus*; the Creeping Juniper, *Juniperus horizontalis*; the Greenland Sandwort, *Arenaria groenlandica*; the Rose-root, *Sedum roseum*; and the Banksian Pine, *Pinus Banksiana*.

But the flora of the Mount Desert region is not by any means entirely arctic or subarctic. There we find essentially all the common plants of the Canadian zone, and mingling with them in sheltered nooks and meadows or on warm slopes, many scores of plants which reach their extreme northern or northeastern limit on Mount Desert or the immediate coast—such plants as the Pitch Pine, *Pinus rigida*; the Bear Oak, *Quercus ilicifolia*; the Sweet Pepperbush, *Clethra alnifolia*; the Swamp Loosestrife, *Decodon verticillatus*; the Meadow Beauty, *Rhexia virginica*; and the Maple-leaved Viburnum, *Viburnum acerifolium*.

This extraordinary accumulation within one small area of the typical plants of the arctic realm, of the Canadian zone, and in many cases of the southern coastal plain,

cannot be duplicated at any point known to the writer.

In its rock and soil composition Mount Desert offers a most attractive possibility. Much of the Island consists of granite rocks, with the consequent acid soils that these give rise to; but the soils derived from some of the metamorphic series, slates and shales, are, judging from the native vegetation, of a basic or even limy character, and many of the swamps are covered not with the heath thickets of acid bogs but with the characteristic grasses and sedges of sweet areas.

A number of the Island plants, indeed, sometimes of rock habitats, sometimes of swamps, suggest themselves at once as species which, in their wide range, show a strong preference for sweet or limy habitats: the Shrubby Cinquefoil, *Potentilla fruticosa*; the Showy Lady's Slipper, *Cypripedium hirsutum*; the Hemlock Parsley, *Conioselinum chinense*, are instances.

These features alone are sufficient to indicate the remarkable possibilities for the future if a tract like Mount Desert, unique upon our coast in physical configuration as in beauty, can be preserved from the destruction of its natural charm by the judicious guarding of what it now possesses and the re-introduction of what it has lost, or lost presumably, both plants and animals.

The fame of the island as the playground, habitual or occasional of a vast and highly intelligent portion of our population, also renders it remarkably appropriate for such a natural reservation; and should such a reservation be established there, with due emphasis laid upon the maintenance or redevelopment of natural and indigenous conditions, its influence upon the intelligent peoples of America will be indeed far-reaching. For it is inconceivable that lovers of nature could enjoy such an ideal area, with its unmolested wild flowers, ferns, birds and harmless animals and with the full beauty of nature everywhere displayed, without desiring and providing a similar blessing—according to the varied



A delightful water garden in the national park, formed by glacial erosion and later soil and vegetation.

opportunities that offer—for themselves, their children, and their children's children in other portions of the continent.

Professor Fernald wrote his plea for conservation of the Acadian flora through the establishment of plant sanctuaries upon Mount Desert Island—a place of extraordinary natural fitness for the purpose—before it was known whether or not the United States Government would accept the lands then offered it upon the Island for a national monument and park.

The warm interest of the Secretary of the Interior, the Hon. Franklin K. Lane, in a project which would extend the benefits of the National Parks Service to the great eastern section of the country, with its dense city populations, resulted in the establishment upon Mount Desert Island of the first national park area—war monuments apart—east of Arkansas. This monument initiates, accordingly, a new departure on the Government's part, a broadening of its policy for nature conservation and the establishment of recreation areas for its people amidst the older eastern country. And it is fitly chosen for such purpose, its grey granite mountains fronting the Acadian Seas traversed by the early voyagers and already annually visited in the sixteenth century by fishing fleets from Brittany. It is with that wild Breton coast, famous always for its hardy, fearless race of seamen, and with the Bay of Biscay shores behind which lay de Monts' and Champlain's boyhood homes that the history of eastern North America is first associated.

This early Acadian period of the first settlements it is that the Sieur de Monts National Monument is intended to commemorate historically. But, historic interest apart, as what Alexander von Humboldt first called, in his home tongue, a "Nature" monument, Mount Desert in its



Beaverdam Pool: A Plant as well as Bird sanctuary, fed by springs and singularly sheltered

own type and region stands supreme, not only exhibiting the boldest rock formations on our eastern coast, worn by the sea's attack and deep ice-sheet erosion, but also furnishing a uniquely favorable opportunity for Wild Gardens such as Professor Fernald writes of, Plant Sanctuaries preserving and exhibiting—so far as that is possible—in a single tract of concentrated plant and landscape interest the whole Acadian flora.

How rich this flora is in beautiful and interesting species yet capable of preservation no one knows who has not made, as he, a thorough study of the subject by personal investigation; nor how rapidly these species are diminishing. There is no other way to save its wild and woodland beauty, the infinite variety and interest of the native vegetation, but that which Professor Fernald urges—Wild Garden Sanctuaries wherein the ancient forest life of the Acadian region may still perpetuate itself and its plants grow on in their original environment, of leafy woodland shade or peaty meadow; and where their loveliness may give men pleasure always and not lead to their destruction.

GEORGE B. DORR.



SIEUR DE MONTS PUBLICATIONS

VI

Wild Life and Nature Conservation in the
Eastern States



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First glimpse of the ocean on the path to Huguenot Head in the Sieur de Monts national park upon the coast of Maine

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VI

WILD LIFE AND NATURE CONSERVATION IN THE EASTERN STATES.

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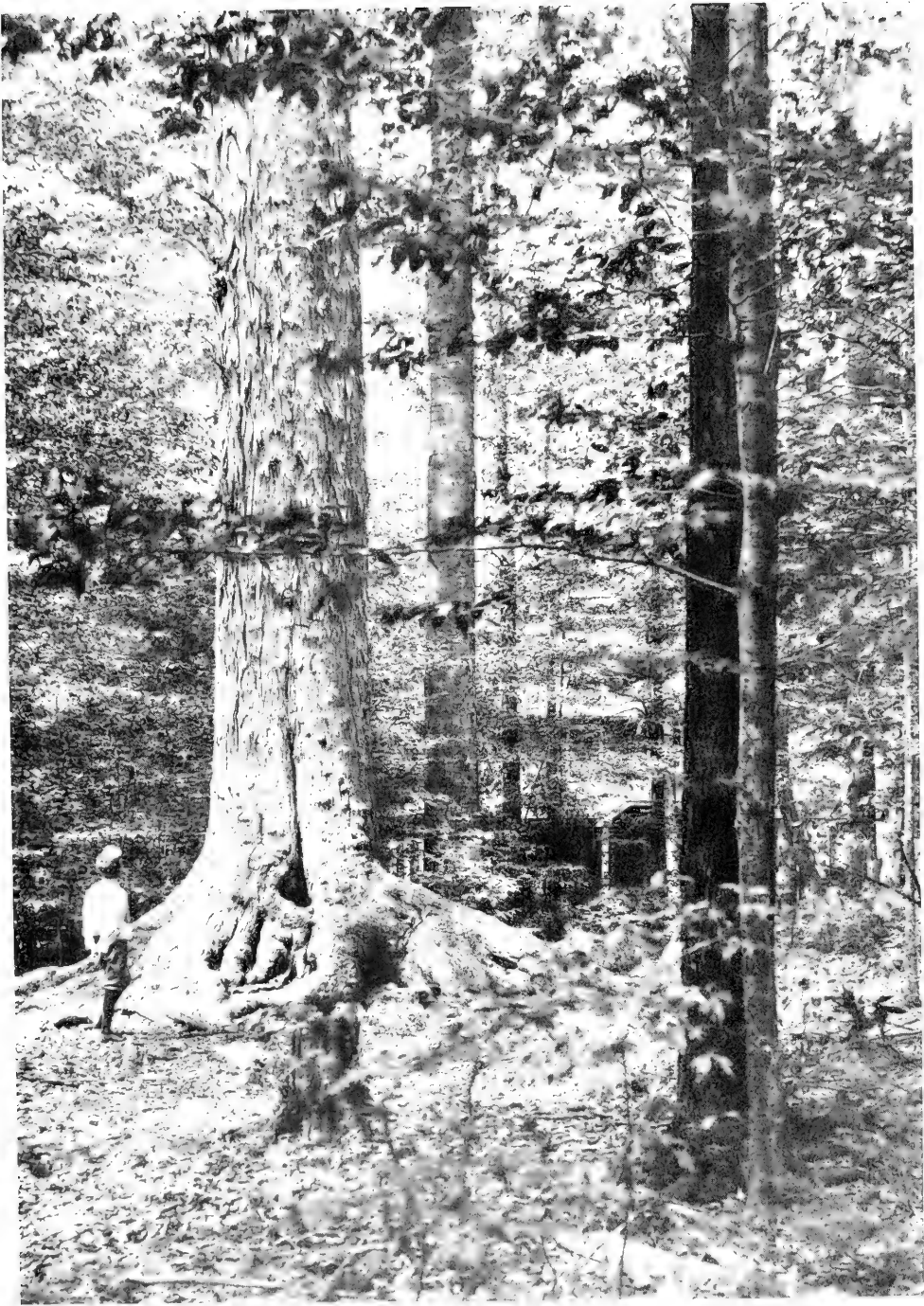
C. S. Sargent

U. S. Forestry
Report

The Appalachian region of America contained until lately the finest temperate-zone forest, and the richest in species, in the world. It ranged unbrokenly from the northern boundary of the United States to Alabama and the Red River region of Louisiana, and it stretched from the Atlantic lowlands to the prairies. Now, comparatively little of this forest is left in an unaltered state; its area has shrunk to a fraction of what it was, and is still shrinking rapidly.

A. R. Wallace

It is a forest of immense antiquity. The earliest fossil record of the broad-leaved, deciduous-leaved type of tree found in the world is found in deep-placed rock-strata of the southern Appalachians, and the evidence is strong that never since that immeasurably far-off time has the long succession of its trees been broken, south of the limit of ice-sheet invasion. It is unique today in species no longer to be found elsewhere, such as the Tulip Tree, of which a dozen other species once dwelt within it; the Magnolias—now elsewhere found in eastern Asia only; the Tupelo, the Liquidamber, Sassafras, and others. Anciently as rich as it in these and other forms, the whole continent of Europe at the present time can scarcely show one-half its wealth in genera and species.



Giant Maple-tree in Pennsylvania

These species, forever irreplaceable if lost, are—like many of our native wild-flowers, birds and animals whose home the forest was—seriously endangered under existing conditions; and eastern America stands in the way today of losing swiftly, in a single human lifetime, its long inheritance of wealth and beauty in the natural world, in trees, in flowering shrubs and plants, in birds and other forms of animal life.

Again, the Atlantic coast lands on the one hand and the Mississippi Valley, with its branches, on the other, are regions destined to be permanent and crowded homes of industry and trade—homes of men, that is, on a vast scale. Between them, and everywhere within easy reach from them, lie the Appalachian mountain ranges, of great natural beauty and refreshing quality in extensive tracts, the ancient home of these magnificent forests, the source of streams, rich in delightful undergrowth and faunal life. This region of woods and mountains, terminating in a magnificently watered region in the north, presents possibilities of incalculable importance to the crowded city populations of the East, the South, and the great Central Plains. To save it to the utmost in beauty and refreshing quality is imperative, in view of the great coming need, and it is yet more imperative to save to those who will come after us the forest's wealth of tree and plant species, of bird and other animal life. For these are things, precious in every sense, that once lost are lost forever, and not a few are lost already.

What is now proposed is this—founded partly on a scheme urged years ago by Dutch and English naturalists for the preservation of the native forest and its associated life in their eastern col-



A magnificent region of mountains, lakes, and forest in the north

onies and partly on the knowledge that biologists have gained in recent years concerning bird and other wild life conservation: To establish a systematic chain of reserves, large or small as opportunity serves but selected always with well-studied reference to the preservation and favorable exhibit of the native forest and other floras, the bird and other faunas of their region; and to choose these areas, also, so as to make of each, so far as possible, a scenic reservation and a park, contributing to health and pleasure and the development of a love for nature.

Each such reserve would thus contribute—variously, according to its character—toward these general ends: (1) the preservation of the native forest flora, its trees and underplants; (2) the preservation of bird and other forms of animal life, natively inhabiting the forest; (3) opportunity for scientific observation and study of these both, existing naturally under their original conditions; (4) conservation, in the public interest, of beautiful and inspiring landscapes; (5) the establishment of a means of study for planters, landscape architects and foresters who have work to plan and carry out in the surrounding region.

In certain places, one or the other of these objects would be dominant—as bird sanctuaries along the shore from Cape Cod southward, or scenic reservations in tracts of exceptionally striking scenery, such as mountain heights and river gorges or beautiful coast landscapes.

To the development of landscape work along broad and natural lines—work soundly based on nature—nothing that could else be done, no train-

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James Bryce



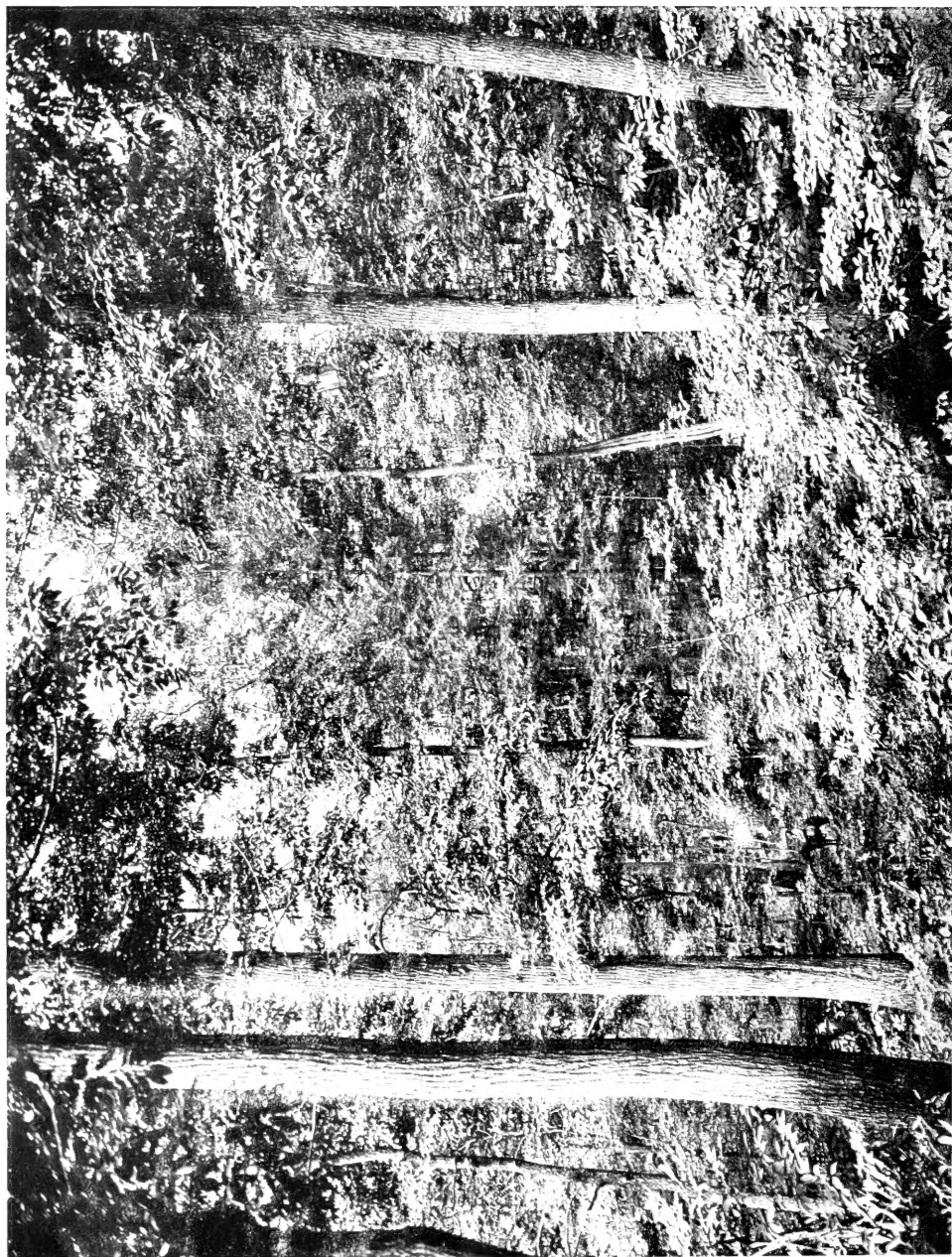
Grandfather Mountain and its hardwood forest, North Carolina

ing in schools or study of foreign examples impossible of reproduction here, would contribute so liberally as this. In exhibiting to architects and landscape architects, or men charged with the development of public parks, the whole range of native material within their reach, a work of widest influence would be accomplished, and one that would aid greatly in the creation of a national landscape art.

For the botanist and entomologist such reserves, grouped in a linked series readily and quickly traversed, would not only provide living collections of the rare plant and insect species of each region, difficult to study otherwise, but would also save from destruction many an interesting life form else certain to become extinct as the woods are cut away, the lands denuded and burnt over.

For the preservation of the bird and other wild life of the Continent, migratory as the former largely is, absolute sanctuaries, well grouped and not too far apart, have already proved themselves beyond dispute essential, in the presence of a time where human forethought and prompt action only can avert the swift destructiveness of human agencies more ruinous biologically and wider spread than the destructive agencies of any previous age, glacial or other, the rocks or later clays reveal.

GEORGE B. DORR.



Forest interior in the Southern Appalachians—Scale is given by the man and horse upon the trail



Ancient sea-cliff on Mount Desert Island, raised by coastal elevation and deeply
sunk in woods

